

Total No. of Questions : 12]

SEAT No. :

P2925

[Total No. of Pages : 2

[5463] - 103

**F.Y. M.C.A. (Under Faculty of Engg.) (Semester - I)**  
**PRINCIPLES OF PROGRAMMING PRACTICES**  
**(2013 Pattern)**

*Time :3 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates:*

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Assume Suitable data if necessary.*

- Q1)** a) Explain types of software. Give three examples of each in detail. [4]  
b) What are the different ways of acquiring software? List out their advantages and limitations. [4]

OR

- Q2)** a) Write note on Linker and interpreter. [4]  
b) List out the steps typically followed in developing software and putting in to use. [4]

- Q3)** a) What are the six steps of the problem solving? [5]  
b) What are the tools of problem solving. [4]

OR

- Q4)** a) Explain benefits of documentation. [5]  
b) Explain difference between user defined data types and inbuilt data types. [4]

- Q5)** a) Name the major types of modules and explain their functions. [4]  
b) What is the decision logic structure? [4]

OR

- Q6)** a) What is meant by the cohesion of a module? State the types of cohesion. [4]  
b) What is a function? Give example of user defined function and inbuilt function in C. [4]

**P.T.O.**

- Q7)** a) Write a short note on Program verification. [4]  
b) Write an algorithm to compute sum and average of n numbers. [4]

OR

- Q8)** a) Write an algorithm to convert character to number. [4]  
b) Write an algorithm to generate Fibonacci sequence. [4]

- Q9)** a) Describe what is meant by the big O notation in algorithm analysis. [4]  
b) How to estimate the running time of an algorithm? [4]

OR

- Q10)** a) Write an algorithm to find prime factor of number. Find frequency count of each step. [4]  
b) Define Best case, Average case and Worst case with example. [4]

- Q11)** a) Write short notes on: [9]  
i) Data Processing  
ii) System maintenance  
iii) Testing and Debugging

OR

- Q12)** a) Write and explain algorithm for Insertion sort. [5]  
b) What is the pointer technique for finding data? Why is it used? [4]

